

**DECISION  
AND  
FINDING OF NO SIGNIFICANT IMPACT  
FOR  
REDUCING BEAVER DAMAGE THROUGH AN  
INTEGRATED WILDLIFE DAMAGE MANAGEMENT PROGRAM  
IN THE  
STATE OF ILLINOIS**

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS), Wildlife Services (WS) program responds to requests for assistance from individuals, organizations and agencies experiencing damage caused by wildlife in Illinois. WS cooperates with land and wildlife management agencies to reduce wildlife damage effectively and efficiently according to applicable federal, State and local laws and Memorandums of Understanding (MOUs) between WS and other agencies. Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual wildlife damage management actions are categorically excluded (7 CFR 372.5(c), 60 Fed. Reg. 6000-6003, 1995). To evaluate and determine if any potentially significant impacts to the human environment from WS planned and proposed program would occur, and to facilitate planning, interagency coordination, and the streamlining of program management, and to clearly communicate with the public the analysis of cumulative impacts an environmental assessment (EA) was prepared. The EA documents the need for beaver damage management to protect property, agricultural and natural resources, and public health and safety in Illinois and assessed potential impacts of various alternatives for responding to damage problems. The pre-decisional EA released by WS in January 2002 documented the need for beaver damage management in Illinois and assessed potential impacts of various alternatives for responding to the request for assistance. Comments from the public involvement process were reviewed for substantial issues and alternatives which were considered in developing this decision. The EA is tiered to the programmatic Environmental Impact Statement (EIS) for the Wildlife Services Program<sup>1</sup> (USDA 1997).

The scope and purpose of this EA is to address and evaluate the potential impact to the human environment from WS beaver damage management to protect property, agricultural and natural resources, and public health and safety in Illinois. Damage problems can occur throughout the State, resulting in requests for WS assistance. Under the proposed action, beaver damage management could be conducted on private or public lands in Illinois. Illinois encompasses about 56,400 square miles. During Fiscal Year (FY) 00, WS entered into its first Agreement for Control to conduct beaver damage management to protect a town from being flooded from raising waters caused by beaver dam construction. Work was conducted on approximately three (3) square miles of land, or about 0.005% of the land area of Illinois. Although WS has been receiving increasing numbers of requests for assistance, it is estimated that the total area of the involved projects will not exceed 0.01% of the area of Illinois over the life of this EA.

WS proposed action is to implement an Integrated Wildlife Damage Management (IWDM) program

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<sup>1</sup> USDA (U.S. Department of Agriculture), Animal and Plant Health Inspection Service (APHIS), Animal Damage Control (ADC). 1997 (revised). Animal Damage Control Program, Final Environmental Impact Statement. Anim. Plant Health Inspection Serv., Anim. Damage Control, Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737. Volume 1, 2 & 3.

on all land classes in Illinois that would include lethal and nonlethal direct control and technical assistance to reduce damage to property, agricultural and natural resources, and public health and safety caused by beaver (*Castor canadensis*). Direct control assistance will only take place after a request for services has been received and where permission has been granted by the landowner or land manager. Based on the analysis in the EA, I have determined that there will not be a significant impact, individually or cumulatively, on the quality of the human environment from implementing the proposed action, and that the action does not constitute a major federal action significantly affecting the quality of the human environment.

## **Public Involvement**

The pre-decisional EA was released to the public for a 41-day comment period with a legal notice being placed in three newspapers (Chicago Tribune [Chicago, IL], The State Journal-Register [Springfield, IL] and Southern Illinoisan [Carbondale, IL]) encompassing the affected area and was mailed directly to agencies, organizations and individuals with probable interest in the proposed program. All comments were analyzed to identify substantial new issues, alternatives, or to redirect the program. One comment letter was received by WS within the 41-day comment period. This letter was from the IL Department of Natural Resources providing their support of the proposed program. This letter is maintained in the administrative file located at the Illinois WS State Office, 2869 Via Verde Drive, Springfield, IL 62703-4325.

## **Monitoring**

The Illinois WS program will review the EA each year to ensure that it and the analysis are sufficient. This EA would remain valid until Illinois WS and other appropriate agencies determine that new needs for action, changed conditions or new alternatives having different environmental effects must be analyzed. At that time, this analysis and document would be supplemented pursuant to NEPA.

## **Impacts to Federally Listed Threatened and Endangered Species**

No adverse effects on federally classified T&E species are expected. WS has consulted with the USFWS under Section 7 of the Endangered Species Act (ESA) concerning potential impacts of WDM methods on T&E species and has obtained a Biological Opinion (B.O.). For the full context of the B.O., see Appendix F of the ADC FEIS (USDA 1997, Appendix F). Furthermore, Illinois WS has determined no effect on those T&E species not included in the 1992 B.O.

## **Major Issues**

Several major issues were contained in the scope of this EA. These issues were consolidated into the following five primary issues to be considered in detail:

- Effects on beaver populations;
- Effects on native fish, wildlife and plant species, including T&E species;
- Effects on public and pet health and safety;
- Humaneness of methods to be used; and

- Impacts to stakeholders, including aesthetics.

### **Alternatives Analyzed in Detail**

Five potential Alternatives were developed to address the issues identified above. A detailed discussion of the anticipated effects of the Alternatives on the issues are contained in the EA. The following summary provides a brief description of each Alternative and its anticipated impacts.

**Alternative 1. No WS Beaver Damage Management in Illinois.** This Alternative would result in no assistance from WS in reducing beaver damage in Illinois. WS would not provide technical assistance or operational damage management services. All requests for beaver damage management would be referred to the IDNR, local animal control agencies or private individuals, businesses or organizations. Assistance may or may not be available from any of these entities.

**Alternative 2. Only Lethal Beaver Damage Management.** Under this Alternative, only lethal operational beaver damage management and technical assistance would be provided by WS. Requests for information regarding non-lethal management approaches would be referred to IDNR, local animal control agencies or private businesses or organizations. Individuals or agencies might choose to implement WS lethal recommendations, non-lethal methods or other methods not recommended by WS, contract for WS lethal damage management services, use contractual services of private businesses, use volunteer services or take no action.

**Alternative 3. Integrated Beaver Damage Management for all Private and Public Land (No Action and Proposed Action).** Wildlife Services proposes to administer and continue the current beaver damage management program in the State of Illinois. An IWDM approach would be implemented to reduce damage associated with beaver activities to property, agricultural and natural resources and public health and safety on all lands in Illinois where a need exists and a request is received. Damage management would be conducted on property in Illinois when the property owners or managers request assistance to alleviate beaver damage. An IWDM strategy would be recommended and used, encompassing the use of practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on humans, target and nontarget species, and the environment. Under this action, WS would provide technical assistance and operational damage management, including non-lethal and lethal management methods by applying the WS Decision Model (Slate et al. 1992). When appropriate, physical exclusion or habitat modification could be recommended and utilized to reduce beaver damage. In other situations, beaver would be removed as humanely as possible using body-grip (e.g., Conibear-type) traps, snares, leghold traps and shooting. When appropriate and necessary, beaver dams would be breached using binary explosives or by hand. In determining the damage management strategy, preference would be given to practical and effective non-lethal methods. However, non-lethal methods may not always be applied as a first response to each damage problem. The most appropriate response could often be a combination of non-lethal and lethal methods, or there could be instances where application of lethal methods alone would be the most appropriate strategy. Beaver damage management would be conducted in the State, when requested, on private or public property after an *Agreement for Control* or other comparable document has been completed. All beaver damage management would be consistent with other uses of the area and would comply with appropriate federal, State and local laws.

**Alternative 4. Technical Assistance Only.** This Alternative would only allow Illinois WS to provide technical assistance to individuals or agencies requesting beaver damage management in Illinois. Property owners and land managers could be implement their own beaver damage management program, use contractual services of private businesses, use volunteer services or take no action. This Alternative would place the immediate burden of operational damage management work on the property owners/managers. Individuals experiencing beaver damage would, independently or with Illinois WS recommendations, carry out damage management activities.

**Alternative 5. Non-lethal Beaver Damage Management.** Under this Alternative, only non-lethal management approaches would be used or recommended by WS. Both non-lethal operational damage management services and technical assistance would be provided by WS. Requests for information regarding lethal management approaches would be referred to IDNR, local animal control agencies or private businesses or organizations. Individuals or agencies might choose to implement WS non-lethal recommendations, implement lethal methods or other methods not recommended by WS, contract for WS non-lethal damage management services, use contractual services of private businesses, use volunteer services, or take no action.

### **Alternatives Considered but not Analyzed in Detail**

Several alternatives were considered, but not analyzed in detail. These include the following.

**Eradication and suppression.** An eradication and suppression Alternative would direct all Illinois WS beaver damage management efforts toward planned, total elimination or suppression of this species.

Eradication of beaver in Illinois is not supported by Illinois WS or IDNR. This Alternative was not considered in detail because:

- Illinois WS opposes eradication of any native wildlife species;
- IDNR opposes eradication of any native Illinois wildlife species;
- The eradication of a native species would not be possible to accomplish; and
- Eradication of native species is not acceptable to most members of the public.

Suppression would direct Illinois WS program efforts toward managed reduction of certain problem wildlife populations or groups. To consider large-scale population suppression as a goal of the Illinois WS program is not realistic, practical or allowable under present WS policy.

**Population stabilization through birth control.** Contraceptives for mammals can be grouped into four categories; surgical sterilization, oral contraception, hormone implantation, and immuno-contraception (the use of contraceptive vaccines). These techniques would require that beaver to receive either single, multiple or possibly daily treatment to successfully prevent conception. The use of this method would be subject to approval by federal and State agencies.

Chemical sterilants can be classified into one of three types; chemosterilants, immunocontraceptives and temporary or short term contraceptives. Chemosterilants have been suggested as a means to

managing beaver populations (Davis 1961, Arner 1964). Several reproductive inhibitors have been proposed for use in beaver population reduction, including quinestrol (17-alpha-ethynyl-estradiol - 3-cyclopentylether) and mestranol (Gordon and Arner 1976, Wesley 1978). While chemosterilants have been shown to reduce beaver reproduction in controlled experiments, there are no practical, effective methods for distributing chemosterilants in a consistent way to wild, free ranging beaver populations (Hill et al. 1977, Wesley 1978). A review of research evaluating chemically induced and surgically induced reproductive inhibition as a method for controlling nuisance beaver populations is contained in Novak (1987). Although these methods were effective in reducing beaver reproduction by up to 50%, the methods were not practical or were too expensive for large-scale application.

This Alternative was not considered in detail because: (1) it would take a number of years of implementation before the beaver population would decline, therefore, damage would continue at the present unacceptable levels for a number of years; (2) surgical sterilization would have to be conducted by licensed veterinarians, therefore, it would be extremely expensive; (3) it is difficult to effectively live trap or chemically capture the number of beaver that would need to be sterilized in order to effect an eventual decline in the population; and (4) no chemical or biological agents for contracepting beaver have been approved for use by State and federal regulatory authorities.

As with chemical repellents and toxicants, a reproduction inhibitor could potentially affect non-target wildlife and the environment. Any material would have to be intensively tested and approved for use. Inhibition of reproduction may also affect behavior, physiological mechanisms, and colony integrity (Brooks et al. 1980). Additional research is needed before the environmental affects, and affects to populations and individual animals, from reproductive inhibitors are known. Should a technique or chemical become registered for use, it could be incorporated into the IWDM Program in Illinois.

**Compensation for wildlife damage losses.** The compensation Alternative would direct all Illinois WS program efforts and resources toward the verification of losses from beaver and to providing monetary compensation for these losses. Illinois WS activities would not include any operational damage management or technical assistance.

This option is not currently available to Illinois WS because WS is directed and authorized by law to protect American agricultural and natural resources, property and public health and safety (Animal Damage Control Act of 1931, as amended; and the Rural Development, Agricultural and Related Agencies Appropriation Act of 1988). Analysis of this Alternative in USDA (1997) shows that it has many drawbacks, including:

- Compensation would not be practical for public health and safety problems;
- It would require larger expenditures of money to investigate and validate all losses and to determine and administer appropriate compensation;
- Timely responses to all requests to assess and confirm losses would be difficult and many losses could not be verified;
- Compensation would give little incentive to limit losses through other management strategies;
- Not all resource managers/owners would rely completely on a compensation program and unregulated lethal control would probably continue and escalate; and

- Neither Congress nor the State of Illinois have appropriated funds for a beaver damage compensation program.

**Bounties.** There are no statewide bounties on beaver in the State of Illinois. Payments distributed for killing beaver (bounties) suspected of causing economic losses is neither supported by WS nor does Illinois WS have the authority to establish a bounty program. Bounties are not considered further because:

- Bounties are generally not effective in reducing damage;
- Circumstances surrounding take of animals is largely unregulated; and
- No process exists to prohibit taking of animals from outside the damage management area for compensation purposes.

### **Finding of No Significant Impact**

The analysis in the EA indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of this proposed action. I agree with this conclusion and therefore find that an EIS need not be prepared. This determination is based on the following factors:

- Beaver damage management, as conducted by WS in Illinois, is not regional or national in scope.
- Based on the analysis documented in the EA, the impacts of the proposed action will not significantly affect public health or safety. Risks to the public from WS methods were determined to be low in a formal risk assessment (USDA1997, Appendix P).
- There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected by the proposed action. Built-in mitigation measures that are part of WS standard operating procedures and adherence to laws and regulations will further ensure that WS activities do not harm the environment.
- The effects on the quality of the human environment are not highly controversial. Although there is some opposition to wildlife damage management, this action is not highly controversial in terms of size, nature or effect.
- Mitigation measures adopted and/or described as part of the proposed action minimize risks to the public, prevent adverse effects on the human environment and reduce uncertainty and risks. The effects of the proposed activities are known and are not highly uncertain and do not involve unique or unknown risks.
- The proposed action does not establish a precedent for future actions with significant effects.
- No significant cumulative effects were identified through this assessment. The number of

beaver killed by WS, when added to the total known other take does not significantly effect beaver populations.

- The proposed activities would not affect districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural or historical resources. Wildlife damage management would not disturb soils or any structures and, therefore, would not be considered a “Federal undertaking” as defined by the National Historic Preservation Act.
- WS has determined that the proposed action would not adversely affect any federal or Illinois State listed threatened or endangered species.
- The proposed action would be in compliance with all federal, State and local laws imposed for the protection of the environment.

### **Decision and Rationale**

I have carefully reviewed the EA and the input from the public involvement process. I believe that the issues identified in the EA are best addressed by selecting Alternative 3 Integrated Beaver Damage Management for all Private and Public Land (No Action and Proposed Action) and applying the associated mitigation and monitoring measures discussed in Chapter 3 of the EA. Alternative 3 is selected because (1) it offers the greatest chance at maximizing effectiveness and benefits to resource owners and managers while minimizing cumulative impacts on the quality of the human environment that might result from the program’s effect on target and non-target species populations; (2) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and (3) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of these issues are considered. The comments identified from public involvement were minor and did not change the analysis. Therefore, it is my decision to implement the proposed action as described in the EA. For additional information regarding this decision, please contact Kirk E. Gustad, State Director, Illinois WS State Office, 2869 Via Verde Drive, Springfield, IL 62703-4325, telephone (217) 241-6700.

/s/

05/08/02

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Charles S. Brown  
Acting Regional Director  
APHIS-WS Eastern Region

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Date

### **Literature Cited:**

- Arner, D.H. 1964. Research and a practical approach needed in management of beaver and beaver habitat in the Southeastern United States. *Trans. North Amer. Wildl. Nat. Resour. Comm.* 29:150-158.
- Brooks, R.P., M.W. Fleming and J.J. Kennelly. 1980. Beaver colony response to fertility control: Evaluating a concept. *J. Wildl. Manage.* 44:568-575.
- Davis, D.S. 1961. Principles for population control by gametocides. *Trans. N. Am. Wildl. Conf.* 26:160-166.
- Gordon, K. L. and D. H. Arner. 1976. Preliminary study using chemosterilants for control of nuisance beaver. *proc. Southeast Assoc. of Game and Fish Comm.* 30: 463-465.
- Hill, E.P., III, D.N. Lasher, and R.B. Roper. 1977. A review of techniques for minimizing beaver and white-tailed deer damage in southern hardwoods. *Proc. 2<sup>nd</sup> Annu. Symp. On Southeastern Hardwoods*, Dothan, Ala. pp. 79-93.
- Novak, M. 1987. Beaver. Pages 282-312 *in* M. Novak, J.A. Baker, M.E. Obbard, and B. Mallock, eds. Wild Furbearer Management and Conservation in North America. Ontario Trappers Assoc., Ontario.
- Slate, D. A., R. Owens, G. Connolly and G. Simmons. 1992. Decision making for wildlife damage management. *Trans. North Am. Wildl. Nat. Res. Conf.* 57:51-62.
- USDA U.S. Department of Agriculture). Animal and Plant Health Inspection Service (APHIS), Animal Damage Control (ADC). 1997. Final Environmental Impact Statement. USDA, APHIS, ADC Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737.
- Wesley, D.E. 1978. Beaver control in the Southeastern United States. Pages 84-91 *in* *Proc. 6<sup>th</sup> Annu. Hardwood Symp.* Hardwood Res. Council, Chashiers, N. C. 94 pp.